be quiet! Power Zone 2 750W

Serial Number 006EUS4341000003

Lab ID BQ75002681

Certification ID 252681

Test Result Report ID: 24PS2681A

Certificate Issue Date: Dec 20, 2024

Scheme: ETA-EMI PSU

115V 230V

Scheme: LAMBDA PSU

115V 230V

Outside Validation Scope

General Information

Test Equipment

Electronic Loads	Chroma 63601-5 x2 Chroma 63600-2 Chroma 63640-80-80 x10 Chroma 63610-80-20
AC Sources	Chroma 6530, APM SP300VAC4000W-P, GW Instek ASR-3500
Power Analyzers	Rohde & Schwarz HMC8015 & NPA701
Oscilloscopes	Picoscope 4444, Siglent SDS2104X PLUS
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Temperature Logger	Picoscope TC-08
Tachometer	UNI-T UT372
Multimeters	Keysight 34465A
EMI Analyzer	TekBox TBMR-110M-EU
Isolation Transformer	4kVA
UPS	FSP Champ Tower 3kVA, CyberPower OLS3000E 3kVA
Testing Methodology	Cybenetics PSU Test Protocol

DUT Information
(Non-accredited measurements)

Product Identification Details	
Brand	be quiet!
Model	Power Zone 2 750W
OEM/ODM	FSP
Serial Number	006EUS4341000003
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240

Rated Current (Arms)	5-10
Rated Frequency (Hz)	50-60
Rated Power (W)	750
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	140mm Rifle Bearing Fan (Pure Wings 3, BQ PUW3-14025-HR)
Semi-Passive Operation	✓
Cybenetics Testing Information	
Lab ID	BQ75002681
Date of receipt	Dec 6, 2024
Testing Date	Dec 18, 2024
Report Issued Date	Dec 20, 2024
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors
(Non-accredited measurements)

Modular Cables				
Description	**Cable Count**	**Connector Count (Total)**	**Gauge**	In Cable Capacitors
ATX connector 20+4 pin (590mm)	1	1	16-22AWG	No
4+4 pin EPS12V (700mm)	1	1	16AWG	No
8 pin EPS12V (700mm)	1	1	16AWG	No
2x 6+2 pin PCIe (600mm)	1	2	16-18AWG	No
6+2 pin PCIe (600mm)	1	1	16AWG	No

12+4 pin PCIe (600mm) (600W)	1	1	16-26AWG	No
SATA (550mm+150mm+150mm+155mm)	1	4	18AWG	No
SATA (500mm+150mm+150) / 4-pin Molex (+150mm)	1	3/1	18AWG	No
AC Power Cord (1350mm) - C13 coupler	1	1	18AWG	-

Protection Features

Over Power Protection	✓
Over Current (+12V) Protection	✓
Over Temperature Protection	✓
Short Circuit Protection	✓
Surge Protection	✓
Inrush Current Protection	✓
Fan Failure Protection	✗

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	62.5	3	0.3
	Watts	120		750	15	3.6
Total Max. Power (W)		750				

Parts Description

General Data	
Manufacturer (OEM)	FSP
PCB Type	Single-Sided
Primary Side	
Transient Filter	4x Y caps, 2x X caps, 2x CM chokes, 1x MOV
Inrush Protection	1x NTC Thermistor SCK 202R0 (2 ohm) & Relay
Bridge Rectifier(s)	2x GBJ25V08 (800V, 25A @ 25°C)

APFC MOSFETs	2x Magnachip MMFT65R090RTH (650V, 22A @ 100°C, Rds(on): 0.090Ohm)
APFC Boost Diode	1x ROHM SCS306AM (650V, 6A @ 120°C)
Bulk Cap(s)	2x Elite (420V, 270uF or 540uF combined, 3,000h @ 105°C, PK)
Main Switchers	2x Infineon IPA60R180P7 (650V, 11A @ 100°C, Rds(on): 0.180Ohm)
IC Driver	Novosense NSi6602
Resonant Controller	Champion CM6901X
APFC Controller	Champion CM6500UNX
Topology	Primary side: APFC, Half-Bridge & LLC Resonant converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETs	4x Nexperia PSMN1R4-40YLD (40V, 240A @ 25°C, Rds(on): 1.4mOhm)
5V & 3.3V	DC-DC Converters: 4x Magnachip MDU1513 (30V, 70.4A @ 70°C, Rds(on): 4.6mOhm) PWM Controller(s): UPI-semiuP3861P
Filtering Capacitors	Electrolytic: 5x Elite (3-5,000h @105°C, EJ) 5x Elite (2-5,000h @105°C, ED) 4x Elite (3-6,000h @105°C, EV) Polymer: 8x Apaq, 7x Elite (CS), 5x CapXon
Supervisor IC	Weltrend WT7527RA (OCP, OVP, UVP, SCP,PG)
Fan Controller	Grenergy GR8031
Fan Model	Pure Wings 3, BQPUW3-14025-HR (140mm, 12V, 0.42A, Rifle Bearing Fan)
5VSB	
Rectifier	MPS MP9989 & 1x CET CEF03N8 (800V, 2A @ 100°C, Rds(on): 4.8Ohm)
Standby PWM Controller	MPS MP9989

Test Results

Temperature & Compliance Info

Temperature Range (°C /°F)	28-32 / 82.4-89.6
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX v3.1 PSU Power Excursion	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	90.237%
Average Noise Output (>1450 Load Combinations)	11.29dBA
Average PF (>1450 Load Combinations)	0.981
Efficiency With 10W (≤500W) or 2% (>500W) Load	66.866%
Standby Power Consumption	0.0540W
Non-Accredited	
12V Ripple (Full Load)	56.30mV
5V Ripple (Full Load)	15.99mV
3.3V Ripple (Full Load)	16.64mV
5VSB Ripple (Full Load)	14.80mV
12V Load Regulation	0.62%
5V Load Regulation	0.91%
3.3V Load Regulation	1.39%
5VSB Load Regulation	2.62%
Inrush Current	74.520A

230V

Accredited		
Average Efficiency (>1450 load combinations)		92.261%
Average Noise Output (>1450 Load Combinations)		10.54dBA
Average PF (>1450 Load Combinations)		0.955
Efficiency With 10W (≤500W) or 2% (>500W) Load		65.827%
Standby Power Consumption		0.0939W
Non-Accredited		
12V Ripple (Full Load)		61.69mV
5V Ripple (Full Load)		15.26mV
3.3V Ripple (Full Load)		16.66mV
5VSB Ripple (Full Load)		15.23mV
12V Load Regulation		0.64%
5V Load Regulation		0.93%
3.3V Load Regulation		1.36%
5VSB Load Regulation		2.64%
Inrush Current		152.100A
12V Transient Response (200%)		11.66V
5V Transient Response (200%)		5.002V
3.3V Transient Response (200%)		3.234V
5VSB Transient Response (200%)		4.903V
Hold-Up Time & PWR_OK Signal		17.90ms
AC Loss to PWR_OK Hold Up Time		13.40ms
PWR_OK Inactive to DC Loss Delay		4.50ms
PSU Timings: T1 (20% / 100%)	69.0ms	68.0ms
PSU Timings: T3 (20% / 100%)	124.0ms	123.0ms
12V OCP (28.7°C / 41.8°C)	83.20A (133.12%), 12.150V	77.60A (124.16%), 12.153V
5V OCP (28.7°C / 41.8°C)	27.7A (138.50%), 5.06V	28A (140.00%), 5.057V
3.3V OCP (28.7°C / 41.8°C)	26.8A (134.00%), 3.315V	26.7A (133.50%), 3.314V
5VSB OCP (28.7°C / 41.8°C)	4.5A (150.00%), 4.947V	4.5A (150.00%), 4.946V
OPP (29.01°C / 42.05°C)	148.36%	139.83%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	17.9
AC Loss to PWR_OK Hold Up Time (ms)	13.4
PWR_OK Inactive to DC Loss Delay (ms)	4.5

Stromverbrauch im Ruhezustand

Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.06 V	115.01 V	113.85 V	115.09 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.99 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.13 %	0.09 %	N/A	0.18 %	2.00 %	PASS
Real Power:	0.054 W	-0.008 W	N/A	0.087 W	N/A	N/A
Apparent Power:	9.034 W	8.822 W	N/A	9.267 W	N/A	N/A
Power Factor:	0.006	N/A	N/A	N/A	N/A	N/A

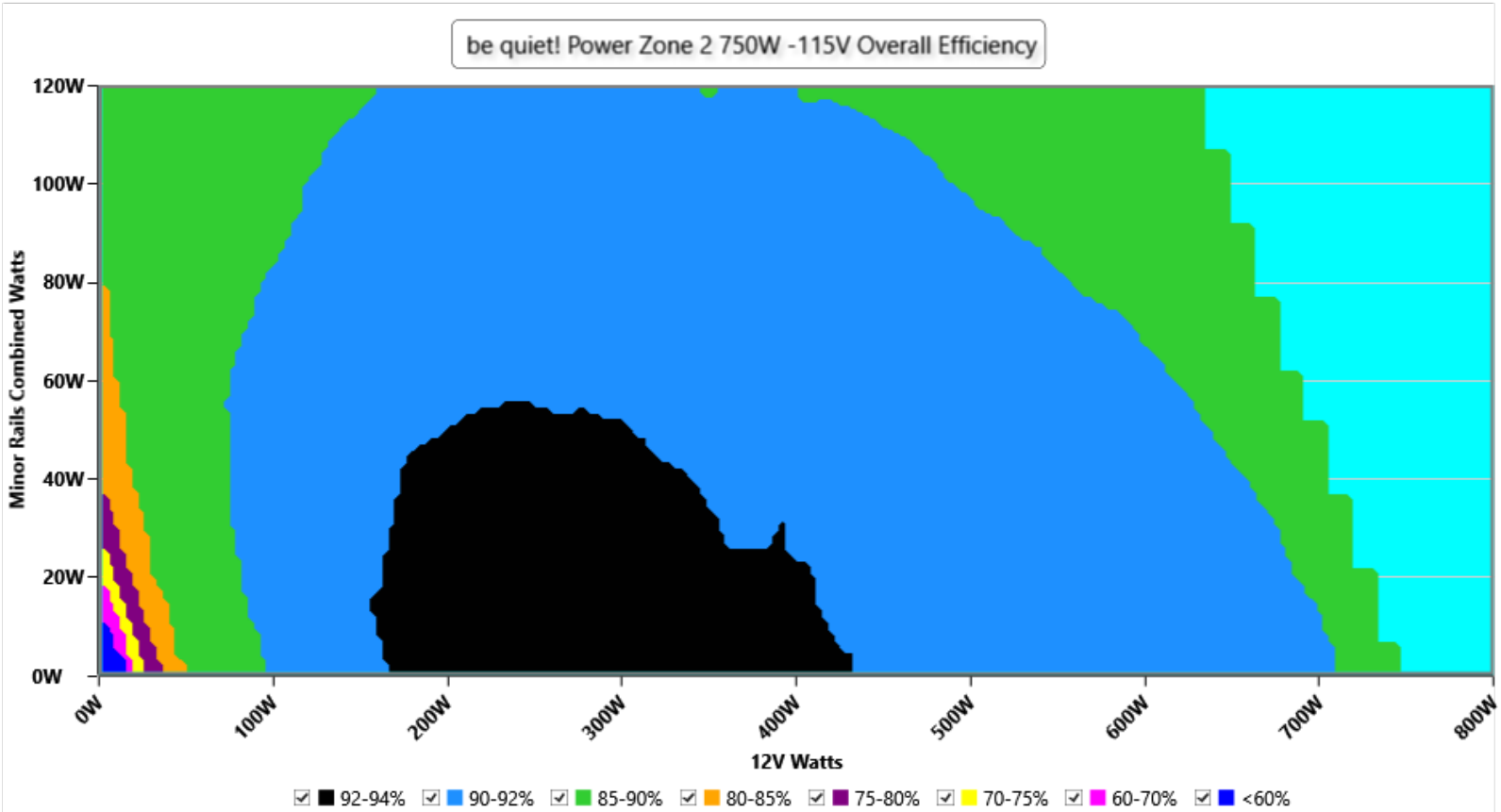
230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	231.00 V	230.89 V	227.70 V	231.06 V	232.30 V	PASS
Mains Frequency:	50.00 Hz	49.99 Hz	49.50 Hz	50.01 Hz	50.50 Hz	PASS
Mains Voltage CF:	1.417	1.416	1.340	1.419	1.490	PASS
Mains Voltage THD:	0.17 %	0.14 %	N/A	0.26 %	2.00 %	PASS
Real Power:	0.094 W	0.047 W	N/A	0.175 W	N/A	N/A
Apparent Power:	30.386 W	29.913 W	N/A	30.904 W	N/A	N/A

Power Factor:	0.003	N/A	N/A	N/A	N/A	N/A

Efficiency Graph

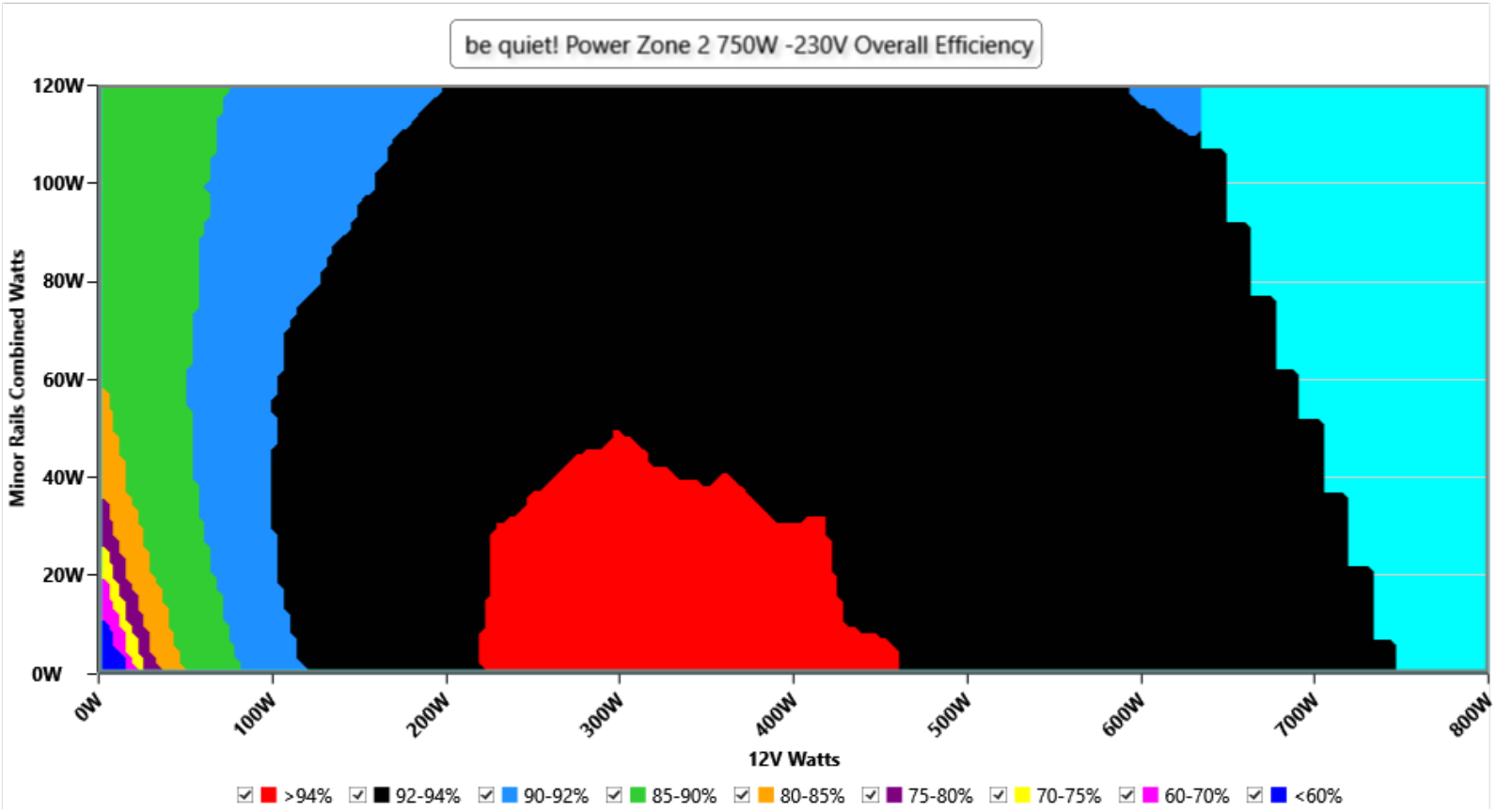
115V



INFO

This graph depicts the PSU`s efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

230V

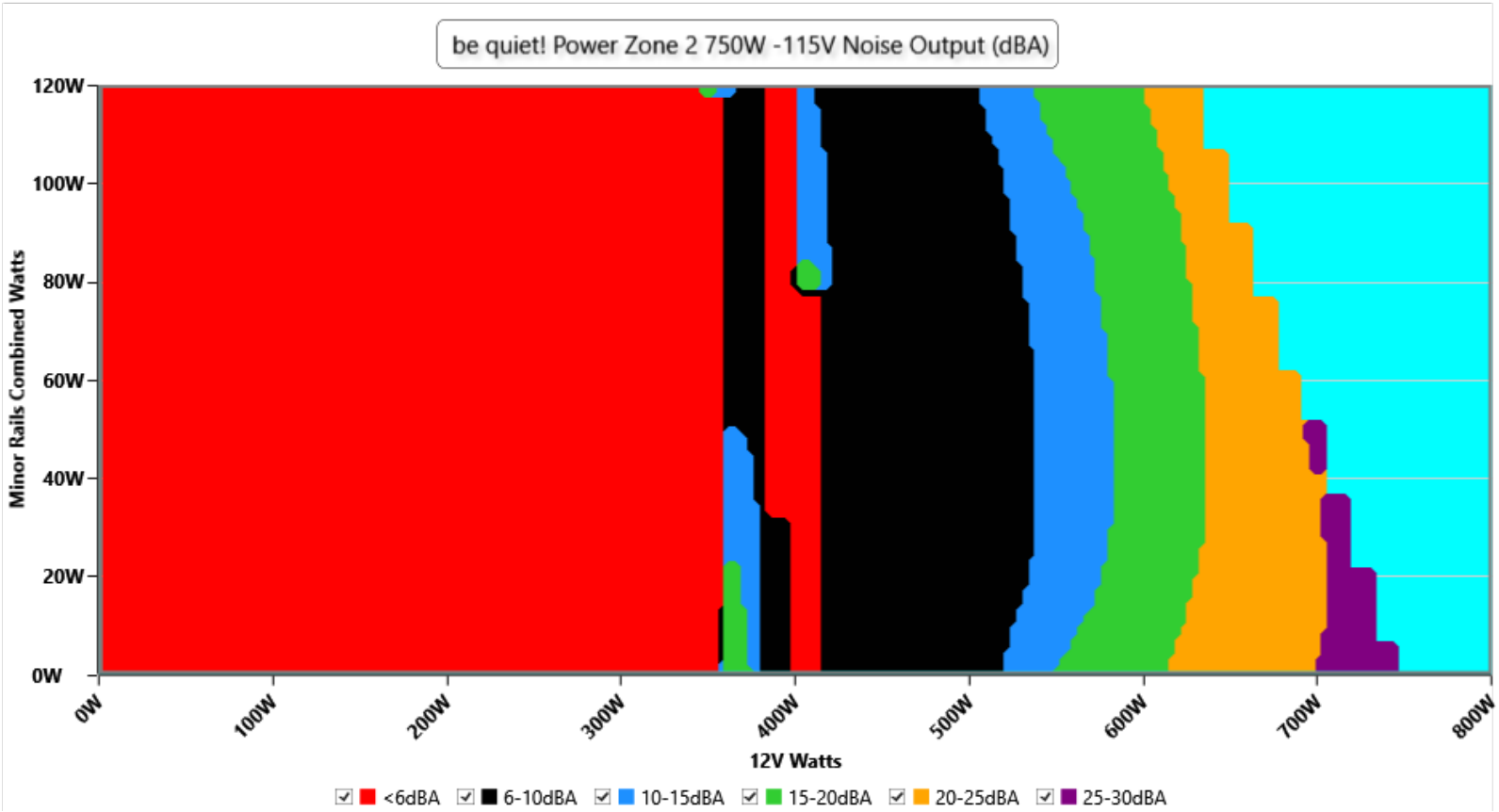


INFO

This graph depicts the PSU`s efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

Noise Graph

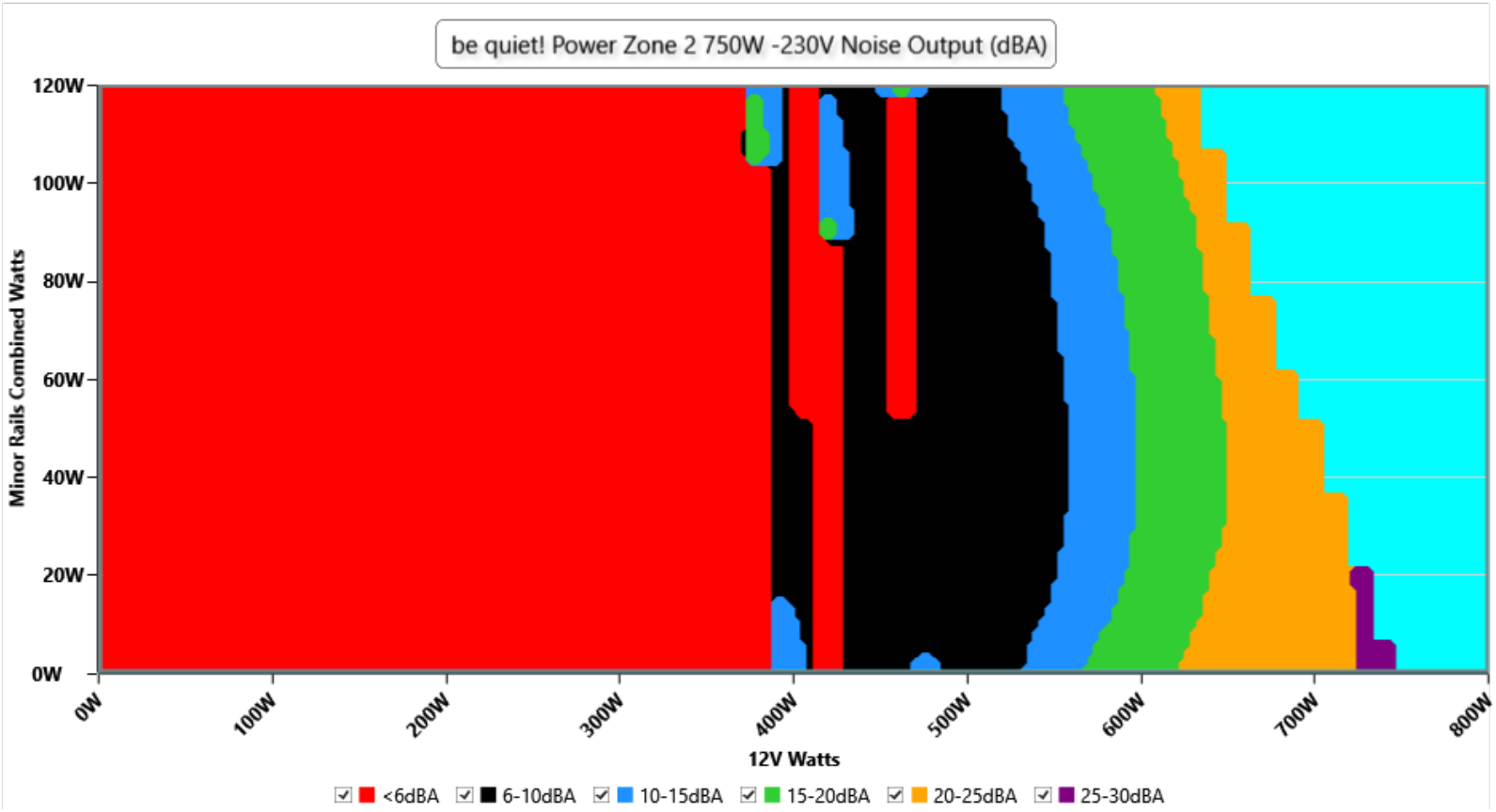
115V



INFO

The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

230V



INFO

The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Noise under high ambient temperature (indicative)

115V

Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 32.1 °C	0 RPM · <6.0 dB(A) · 50.0 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 35.2 °C	0 RPM · <6.0 dB(A) · 52.3 °C	fan off in both
50%	0 RPM · <6.0 dB(A) · 39.3 °C	0 RPM · <6.0 dB(A) · 56.6 °C	fan off in both
100%	807 RPM · 18.2 dB(A) · 30.3 °C	1223 RPM · 31.4 dB(A) · 45.0 °C	**+13.2 dB(A)**

230V

Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 35.5 °C	0 RPM · <6.0 dB(A) · 47.1 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 36.7 °C	0 RPM · <6.0 dB(A) · 48.2 °C	fan off in both
50%	0 RPM · <6.0 dB(A) · 37.5 °C	0 RPM · <6.0 dB(A) · 53.3 °C	fan off in both
100%	852 RPM · 19.9 dB(A) · 30.4 °C	1235 RPM · 31.7 dB(A) · 45.6 °C	**+11.8 dB(A)**

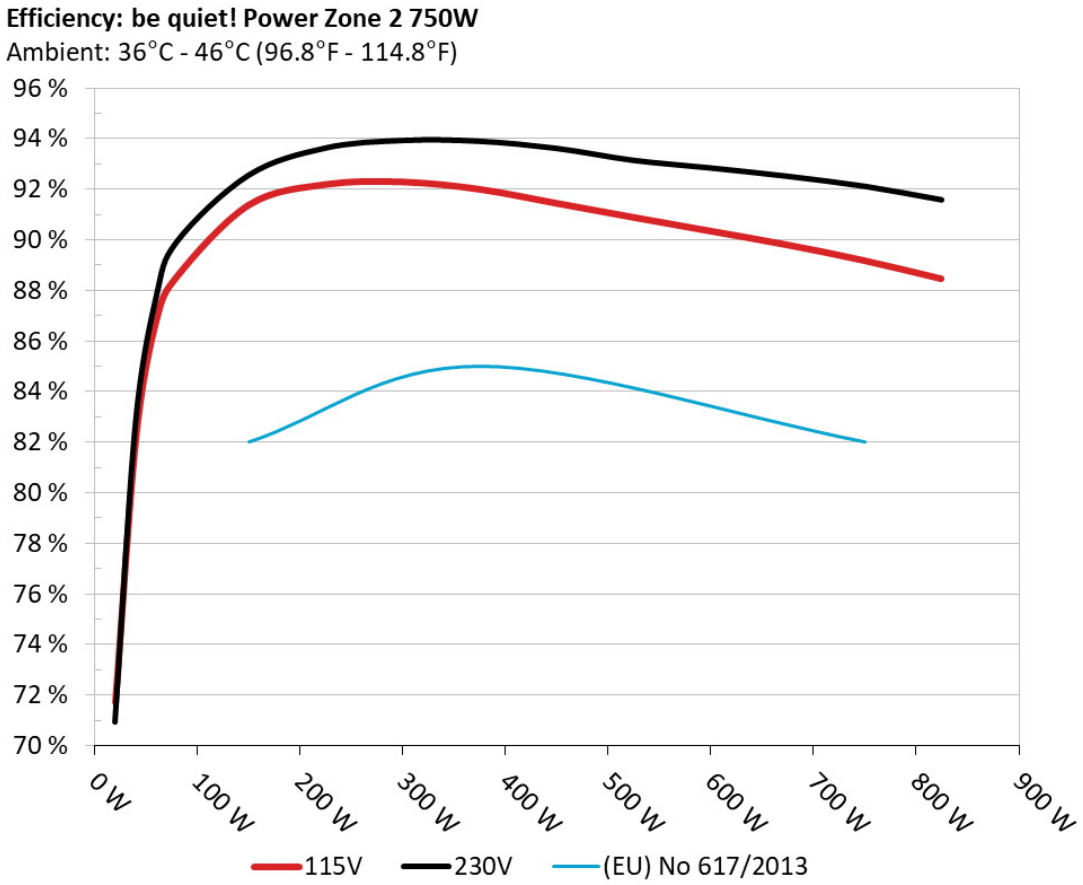
INFO

Fan speed, noise and the measured intake temperature at 10, 20, 50 and 100 % load, from the two load regulation tests: at normal ambient (about 30-32 °C) and at high ambient (about 40-47 °C). These are stabilized readings at fixed loads, not averages over the certification sweep, so they are indicative of how the fan behaves when it is hot. "<6.0" is the floor of our sound meter: the fan is stopped or too quiet to measure (the fan speed column says which); with the fan stopped, the intake sensor can read higher than the chamber air.

Informational. Not part of the ETA or LAMBDA rating.

Indicative Performance

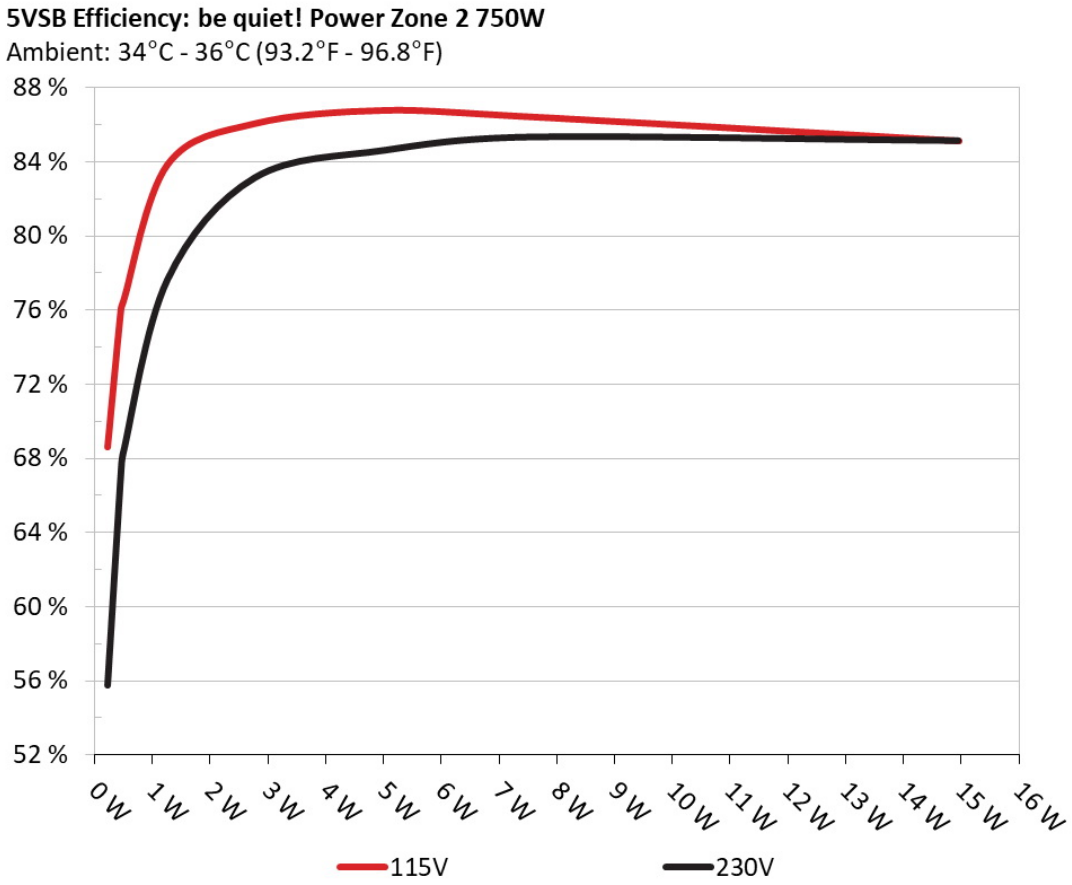
Efficiency under high ambient temperature



INFO

The PSU`s efficiency under high ambient temperatures with 115V and 230V input. For this graph the results of the 10-110% load regulation table are used

5VSB Efficiency



INFO

This graph depicts the efficiency levels of the 5VSB rail with 115V and 230V input

5VSB Efficiency (ERP LOT 3/6 & CEC)

115V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	**0.045A**	0.228W	68.632%	0.037
	5.062V	0.333W		114.91V
2	**0.09A**	0.455W	75.963%	0.065
	5.06V	0.6W		114.91V
3	**0.55A**	2.776W	86.068%	0.258
	5.049V	3.225W		114.91V
4	**1A**	5.037W	86.784%	0.324
	5.037V	5.804W		114.91V
5	**1.5A**	7.538W	86.433%	0.372
	5.025V	8.72W		114.91V
6	**3A**	14.959W	85.132%	0.437
	4.987V	17.572W		114.9V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	**0.045A**	0.228W	55.736%	0.013
	5.062V	0.41W		229.91V
2	**0.09A**	0.455W	66.998%	0.022
	5.061V	0.682W		229.9V
3	**0.55A**	2.776W	83.116%	0.104
	5.048V	3.34W		229.89V
4	**1A**	5.036W	84.597%	0.17
	5.036V	5.952W		229.88V
5	**1.5A**	7.535W	85.306%	0.204
	5.023V	8.833W		229.89V
6	**3A**	14.949W	85.114%	0.303
	4.984V	17.565W		229.88V

Protection Features

OCP (Normal @ 28.7°C)	12V: 83.2A (133.12%), 12.15V 5V: 27.7A (138.5%), 5.06V 3.3V: 26.8A (134%), 3.315V 5VSB: 4.5A (150%), 4.947V
OCP (Hot @ 41.8°C)	12V: 77.6A (124.16%), 12.153V 5V: 28A (140%), 5.057V 3.3V: 26.7A (133.5%), 3.314V 5VSB: 4.5A (150%), 4.946V
OPP (Normal @ 29°C)	1112.73W (148.36%)
OPP (Hot @ 42°C)	1048.74W (139.83%)
OTP	✓ (128°C @ Secondary Side)
SCP	12V to Earth: ✓ 5V to Earth: ✓ 3.3V to Earth: ✓ 5VSB to Earth: ✓ -12V to Earth: ✓
PWR_OK	Proper Operation
NLO	✓
Fan Failure Protection	✗
SIP	Surge: MOV Inrush: NTC & Bypass Relay

Supplementary Tests (For Reference)

Typical Load Tests

115V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	**4.368A**	**1.963A**	**1.969A**	**0.993A**	74.996	87.536%	0	<6.0	49.95°C	0.948
	12.227V	5.094V	3.352V	5.035V	85.675				40.01°C	114.89V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20%	**9.742A**	**2.948A**	**2.958A**	**1.194A**	149.925	91.372%	0	<6.0	52.27°C	0.968
	12.219V	5.089V	3.347V	5.024V	164.082				40.57°C	114.86V
30%	**15.468A**	**3.442A**	**3.455A**	**1.396A**	224.922	92.184%	0	<6.0	53.69°C	0.975
	12.211V	5.085V	3.343V	5.014V	243.991				41.34°C	114.84V
40%	**21.208A**	**3.937A**	**3.953A**	**1.599A**	300.006	92.282%	0	<6.0	55.36°C	0.981
	12.203V	5.08V	3.339V	5.004V	325.099				41.81°C	114.81V
50%	**26.561A**	**4.926A**	**4.95A**	**1.803A**	374.408	91.995%	0	<6.0	56.61°C	0.985
	12.194V	5.075V	3.334V	4.992V	406.982				42.12°C	114.78V
60%	**31.965A**	**5.918A**	**5.95A**	**2A**	449.291	91.441%	0	<6.0	58.77°C	0.988
	12.186V	5.07V	3.328V	4.983V	491.345				42.85°C	114.76V
70%	**37.371A**	**6.91A**	**6.951A**	**2.213A**	524.251	90.885%	738	14.9	43.32°C	0.99
	12.179V	5.066V	3.324V	4.971V	576.83				47.34°C	114.73V
80%	**42.849A**	**7.902A**	**7.955A**	**2.317A**	599.44	90.342%	903	21.8	43.92°C	0.992
	12.172V	5.061V	3.318V	4.962V	663.525				47.35°C	114.7V
90%	**48.663A**	**8.402A**	**8.447A**	**2.422A**	674.453	89.796%	1068	27.4	44.47°C	0.992
	12.164V	5.057V	3.314V	4.953V	751.094				47.31°C	114.67V
100%	**54.289A**	**8.904A**	**8.973A**	**3.042A**	749.654	89.172%	1223	31.4	45°C	0.993
	12.157V	5.053V	3.31V	4.931V	840.692				47.5°C	114.64V
110%	**59.792A**	**9.904A**	**10.077A**	**3.045A**	824.675	88.455%	1405	35.2	46.1°C	0.994
	12.149V	5.048V	3.304V	4.925V	932.312				49.08°C	114.61V
CL1	**0.113A**	**14.252A**	**14.365A**	**0A**	121.282	85.504%	0	<6.0	46.66°C	0.966
	12.214V	5.065V	3.321V	5.048V	141.844				40°C	114.86V
CL2	**0.113A**	**19.728A**	**0A**	**0A**	101.342	84.028%	0	<6.0	49.11°C	0.962
	12.220V	5.067V	3.334V	5.055V	120.604				40.37°C	114.87V
CL3	**0.113A**	**0A**	**19.874A**	**0A**	67.391	78.723%	0	<6.0	50.95°C	0.948
	12.218V	5.072V	3.321V	5.055V	85.606				40.69°C	114.88V
CL4	**61.623A**	**0A**	**0A**	**0A**	749.496	89.763%	1237	31.7	45°C	0.993
	12.163V	5.069V	3.328V	5.019V	834.975				48.22°C	114.66V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	**4.368A**	**1.963A**	**1.969A**	**0.993A**	74.996	88.932%	0	<6.0	47.06°C	0.849
	12.227V	5.094V	3.352V	5.035V	84.329				40.37°C	229.87V
20%	**9.742A**	**2.948A**	**2.958A**	**1.194A**	149.927	92.556%	0	<6.0	48.2°C	0.926
	12.219V	5.089V	3.347V	5.024V	161.986				40.5°C	229.86V
30%	**15.468A**	**3.442A**	**3.455A**	**1.396A**	224.926	93.637%	0	<6.0	50.11°C	0.949
	12.211V	5.085V	3.343V	5.013V	240.211				41°C	229.85V
40%	**21.209A**	**3.937A**	**3.954A**	**1.599A**	300.013	93.933%	0	<6.0	51.6°C	0.962
	12.203V	5.08V	3.339V	5.003V	319.39				41.55°C	229.84V
50%	**26.563A**	**4.926A**	**4.95A**	**1.803A**	374.42	93.905%	0	<6.0	53.26°C	0.969
	12.195V	5.075V	3.333V	4.992V	398.723				42.11°C	229.82V
60%	**31.966A**	**5.918A**	**5.95A**	**2A**	449.306	93.624%	0	<6.0	55.52°C	0.972
	12.186V	5.07V	3.328V	4.982V	479.908				42.9°C	229.81V
70%	**37.377A**	**6.911A**	**6.953A**	**2.213A**	524.273	93.151%	718	13.9	43.35°C	0.976
	12.177V	5.065V	3.323V	4.97V	562.818				45.86°C	229.8V
80%	**42.857A**	**7.903A**	**7.958A**	**2.318A**	599.486	92.848%	882	21	42.7°C	0.979
	12.170V	5.06V	3.318V	4.961V	645.666				45.51°C	229.78V
90%	**48.675A**	**8.404A**	**8.45A**	**2.423A**	674.51	92.52%	1064	27.1	44.17°C	0.981
	12.163V	5.056V	3.313V	4.952V	729.041				46.55°C	229.77V
100%	**54.304A**	**8.907A**	**8.972A**	**3.043A**	749.725	92.122%	1235	31.7	45.62°C	0.982
	12.154V	5.052V	3.311V	4.929V	813.839				47.79°C	229.76V
110%	**59.813A**	**9.907A**	**10.082A**	**3.047A**	824.756	91.586%	1417	35.6	46.22°C	0.983
	12.145V	5.046V	3.303V	4.922V	900.527				48.28°C	229.74V
CL1	**0.115A**	**14.255A**	**14.369A**	**0A**	121.29	86.596%	0	<6.0	45.48°C	0.916
	12.212V	5.064V	3.32V	5.047V	140.064				40.84°C	229.86V
CL2	**0.113A**	**19.732A**	**0A**	**0A**	101.355	85.001%	0	<6.0	47.91°C	0.9
	12.218V	5.066V	3.334V	5.054V	119.241				40.5°C	229.87V
CL3	**0.113A**	**0A**	**19.878A**	**0A**	67.398	80.031%	0	<6.0	49.3°C	0.85
	12.217V	5.071V	3.321V	5.054V	84.215				40.04°C	229.87V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL4	**61.645A**	**0A**	**0A**	**0A**	749.577	92.692%	1242	31.9	45.57°C	0.982
	12.160V	5.068V	3.327V	5.017V	808.67				47.54°C	229.76V

The results above are not used in the certification process

Light Load Tests

115V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20W	**1.214A**	**0.49A**	**0.492A**	**0.198A**	19.993	71.708%	0	<6.0	43.49°C	0.897
	12.225V	5.099V	3.356V	5.06V	27.882				36.05°C	114.9V
40W	**2.672A**	**0.687A**	**0.689A**	**0.297A**	39.994	82.209%	0	<6.0	45.02°C	0.916
	12.232V	5.098V	3.355V	5.056V	48.649				37.14°C	114.89V
60W	**4.132A**	**0.883A**	**0.885A**	**0.396A**	59.993	86.846%	0	<6.0	46.63°C	0.936
	12.230V	5.097V	3.354V	5.052V	69.079				38.13°C	114.9V
80W	**5.586A**	**1.079A**	**1.083A**	**0.495A**	79.932	88.545%	0	<6.0	48.12°C	0.95
	12.227V	5.096V	3.352V	5.048V	90.274				39.04°C	114.89V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20W	**1.214A**	**0.49A**	**0.492A**	**0.198A**	19.994	70.935%	0	<6.0	42.19°C	0.548
	12.225V	5.099V	3.356V	5.059V	28.186				36.02°C	229.89V
40W	**2.672A**	**0.686A**	**0.689A**	**0.297A**	39.993	82.766%	0	<6.0	43.21°C	0.726
	12.232V	5.098V	3.355V	5.055V	48.321				37.19°C	229.88V
60W	**4.132A**	**0.883A**	**0.885A**	**0.396A**	59.993	87.716%	0	<6.0	44.21°C	0.811
	12.230V	5.097V	3.354V	5.052V	68.393				38.01°C	229.88V
80W	**5.586A**	**1.079A**	**1.083A**	**0.495A**	79.932	89.919%	0	<6.0	45.31°C	0.858
	12.227V	5.096V	3.353V	5.048V	88.895				39.14°C	229.87V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	21.37mV	13.90mV	12.99mV	12.12mV	Pass
20% Load	28.68mV	13.39mV	13.05mV	12.17mV	Pass
30% Load	27.46mV	13.23mV	13.91mV	11.81mV	Pass
40% Load	27.81mV	13.49mV	13.15mV	12.17mV	Pass
50% Load	30.83mV	13.69mV	13.56mV	12.38mV	Pass
60% Load	31.91mV	14.15mV	13.97mV	13.25mV	Pass
70% Load	33.85mV	14.81mV	14.32mV	13.45mV	Pass
80% Load	35.80mV	14.10mV	14.27mV	13.35mV	Pass
90% Load	37.64mV	14.56mV	14.73mV	13.40mV	Pass
100% Load	56.30mV	15.99mV	16.64mV	14.80mV	Pass
110% Load	65.74mV	16.97mV	17.58mV	15.60mV	Pass
Crossload1	40.42mV	15.65mV	18.51mV	13.98mV	Pass
Crossload2	26.59mV	17.88mV	15.65mV	13.20mV	Pass
Crossload3	23.52mV	14.36mV	20.46mV	13.30mV	Pass
Crossload4	57.87mV	14.50mV	14.60mV	13.12mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	22.29mV	13.49mV	13.10mV	12.23mV	Pass
20% Load	30.94mV	13.03mV	12.89mV	12.02mV	Pass
30% Load	30.48mV	12.72mV	12.74mV	12.17mV	Pass
40% Load	30.94mV	13.39mV	13.30mV	12.12mV	Pass
50% Load	33.49mV	12.87mV	13.04mV	11.66mV	Pass
60% Load	37.89mV	13.18mV	13.91mV	12.28mV	Pass

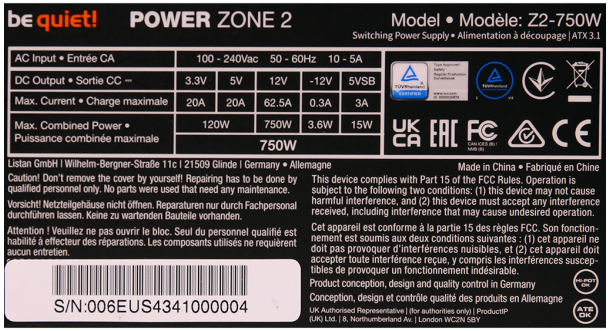
Test	12V	5V	3.3V	5VSB	Pass/Fail
70% Load	36.82mV	13.49mV	14.07mV	13.15mV	Pass
80% Load	39.02mV	13.13mV	14.07mV	12.38mV	Pass
90% Load	40.96mV	14.81mV	15.81mV	12.99mV	Pass
100% Load	61.69mV	15.26mV	16.66mV	15.23mV	Pass
110% Load	71.50mV	15.37mV	18.22mV	15.55mV	Pass
Crossload1	42.83mV	16.03mV	19.67mV	15.03mV	Pass
Crossload2	31.45mV	17.22mV	14.73mV	13.97mV	Pass
Crossload3	24.74mV	13.64mV	18.26mV	13.25mV	Pass
Crossload4	61.02mV	14.45mV	15.25mV	14.20mV	Pass

The results above are not used in the certification process

be quiet! Power Zone 2 750W



Top side



Power specifications label

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